Case Study 1:

Marburg virus

Researchers are using monkey kidney cells see if a potential vaccine will have any effect on preventing a Marburg virus infection. Typical cell culture methods are used for growth and inoculation. Electron microscopy will be used to see the effects of the virus on the cells. PCR will also be used through out the project.

Case Study 2:

Brucella melitensis

Medical technologists are using blood cultures to diagnosis *Brucella melitensis*. They are using commercial blood culture systems for this work. They are not performing this particular work in the biosafety cabinet.

Case Study 3:

MDR - Shigella sonnei

Medical technologists are using clinical stool samples to look for diarrheal diseases with a focused look for MDR strains of *Shigella sonnei.* The technologists are culturing the bacteria and upon identification of *Shigella* strains are conducting sensitivity tests looking for MDR strains.

Case Study 4:

SARS

Researchers are conducting a small vaccine study for a new SARS vaccine. Researchers are growing the SARS virus in multi-liter cell culture volumes (approximately 15 liters of volume). Post growth and purification, the virus will be inactivated.

Case Study 5:

Highly Pathogenic Avian Influenza (H5N1)

Researchers are using a mouse model for the evaluation of the pathogenesis and the immunity to the Highly Pathogenic Avian Influenza virus (H5N1). Researcher will be infecting mice with the H5N1 and upon successful infection, researchers will detect if virus exists in various organs including the lungs and brain. Some mice will also be vaccinated using an inactivated strain prior to exposure. (For this case, identify in the model where the mouse specifically increased the risk).